

WHAT IS CLAIMED IS:

1. A cell search determination circuit, wherein a mobile station in W-CDMA cellular communications confirms a scramble code identified by cell search, comprising;

first correlation means for correlating the scramble code and a receiving signal;

second correlation means for correlating a first synchronous channel code and the receiving signal;

average operation means for generating a phase vector in which noise components of an output from the first correlator are suppressed;

first power addition means for acquiring a power of the first correlation means using the phase vector and performing integration;

second power addition means for acquiring a power of the second correlation means using the phase vector and performing integration;

threshold operation means for outputting a threshold value corresponding to an output from the first power addition means; and

comparison means for making a threshold determination of an output from the second power addition means using the threshold value.

2. The cell search determination circuit as claimed in claim 1, wherein the threshold operation means outputs a threshold

value based on a transmission level ratio of the first synchronous channel code to the scramble code.

3. A cell search determination circuit, wherein a mobile station in W-CDMA cellular communications confirms a scramble code identified by cell search, comprising:

first correlation means for correlating the scramble code and a receiving signal;

second correlation means for correlating a first synchronous channel code and the receiving signal;

third correlation means for correlating a second synchronous channel code and the receiving signal;

average operation means for generating a phase vector in which noise components of an output from the first correlation means are suppressed;

first power addition means for acquiring a power of the first correlation means using the phase vector and performing integration;

second power addition means for acquiring a power of the second correlation means using the phase vector and performing integration;

third power addition means for acquiring a power of the third correlation means using the phase vector and performing integration;

second threshold operation means for outputting a second threshold value corresponding to an output from the second power addition means;

first comparison means for making a threshold determination of an output from the third power addition means using the second threshold value;

first threshold operation means for outputting a first threshold value corresponding to an output from the first power addition means; and

second comparison means for making a threshold determination of an output from the first comparator using the first threshold value.

4. A cell search determination circuit, wherein a mobile station in W-CDMA cellular communications confirms a scramble code identified by cell search, and wherein a first delay profile using a first synchronous channel code, which is common to all base stations, and a second delay profile using the scramble code identified by the cell search, are employed to reduce the number of times for the cell search by removing paths from the base stations, which have been identified by the cell search and shown in the second delay profile, among paths from all base stations shown in the first delay profile.

5. The cell search determination circuit as claimed in claim 4, comprising RAKE receiving means for synthesizing paths from the same base stations, wherein a threshold determination is made based on an output from the RAKE receiving means.